

REMARKS

There were 44 claims in the original application numbered 1 – 44. Following the response to the previous Office Action there were 46 claims numbered 1 – 42 and 48 – 51. Following this application there are 46 claims numbered 1 – 42 and 48 – 51. There are 6 independent claims and 40 dependent claims. Claims 1, 22 and 48 – 51 are the independent claims. Claims 2 – 11, 13 – 21 and 23 – 42 are the dependent claims. The status of the claims is as follows: claims 2 – 11, 14 – 21, 23 – 32, and 35 – 42 (Original); claims 13, 22, 34, and 48-51 (Previously Presented); claims 12, 33, 43 – 47 and 52 – 53 (cancelled); and claim 1 (currently amended).

Reconsideration and allowance of the claims argued herein is respectfully requested.

The Art

The invention teaches a system and method for operating a server device that can maintain a connection with a client device across reboot (elective and non-elective) and failure of the server device. This is accomplished by an inventive mechanism resident at the server device. It requires no persistent connection software at the client, no awareness of the client device that a persistent type of connection is being enforced, and no requirement that the client device maintain any data incident to enforcing a persistent type of connection.

Conversely, French appears to be a persistent connection method that requires persistent connection software resident on the client device, requires that data structures in support of the persistent connection be stored at the client device, and requires that the client device is vigilant in maintaining a persistent connection with the server device (replaying connections).

The § 103 Rejections

At page 2 the Office Action rejects claims 1 – 4, 8, 16, 21 – 25, 29, 37, 42 under 35 U.S.C. 103(a) as being unpatentable over French, US patent no. 6,341,312 in view of Kampe, Pub. No. US 20020002448.

Claims 1 - 21

At page 2, paragraph 5 the Office Action rejects claim 1. The Office Action states that French does not explicitly teach wherein the step of recording state further comprises the step of determining whether recovery will be accomplished by rebooting the affected server but that Kampe teaches such and it would have been obvious to one skilled in the art to apply the teaching of Kampe to French. Applicant respectfully disagrees and hereby traverses the rejection.

Applicant has amended claim 1 to read in part, “...wherein said steps of recording and restoring are transparent to said client.”

At col. 6, lines 40 – 45 French states in part “Generally, the data structures identifying the persistent connections are stored in RAM in the client machine (Emphasis added)” and at col. 13, lines 56 – 58 French states “As previously mentioned, the inventive persistent connections mechanism is implemented in software residing on the client machine. (Emphasis added).” Clearly, French teaches implementing the inventive persistent connections mechanism at the client (so the client can replay the connections), whereas Applicant’s invention implements the inventive persistent mechanism at the server. French is not seen to teach or disclose a system or method that includes no requirement for data structures or software specifically in support of a persistent connection at the client device such that the steps of recording and restoring are transparent to the client device, thus French does not teach the invention and any combination of art that includes Kampe is moot.

To be fully responsive to the Office Action, the Applicant now discusses French in combination with Kampe even though it is believed to be traversed.

Kampe appears to teach a method for modeling networks in software to test and gather information on prospective failure rates and associated statistics. Conversely, the invention at issue attempts to maintain a CIFS session across a server failure by supporting a reboot or providing failover to an alternate server. Moreover, there is a methodology that is followed in support of the invention. At a minimum, incoming CIFS requests must be rejected or ignored and current in-process CIFS requests must be flushed (processed to completion), Kampe does not teach these steps and neither does French. When read in light of the specification, it is clear that the application of any art that deals merely with failover or reboot is non-obvious when applied to claim 1.

For at least these reasons it is believed that claim 1 is allowable over French in view of Kampe. Claims 2 - 21 depend either directly or indirectly from claim 1 and are also believed to be allowable over French in view of Kampe. Action for allowance by the Examiner is respectfully requested.

Claim 4

In regard to claim 4, the Office Action states that “French teaches the step of recording state occurs at points based or [sic] the progress of processing a CIFS request (CIFS, col. 3 lines 25 – 50). Applicant believes that the cited text refers to types of network devices and how a user normally attaches or mounts a given network device after they logon. This section of text states that “the client server network includes a network file system 16, e.g., and SMB (CIFS) file system. Other network file system types include NFS (for UNIX) and the like...”, but is silent as to teaching the step of recording state at points based on the progress of a CIFS request.

It could be argued that recording state of the processing of CIFS requests is inherent and an obvious part of processing CIFS requests. This may be true for standard processing of CIFS requests; however, it is the unique application and type of recordation that the invention teaches that is non-obvious and contrasts the invention from the cited art. First, the recordation of CIFS progress is not simply a tool for ensuring CIFS request are processed, but to ensure that CIFS requests are processed through takeover and/or

reboot of a server device. Second, that recordation also includes whether takeover and/or reboot was elective or non-elective.

For at least these reasons it is believed that claim 4 is allowable over French. Also, claim 4 depends directly from claim 1 and for at least the reasons stated regarding claim 1 it is believed that claim 4 is allowable over French.

Claim 8

In regard to claim 8, Applicant believes this rejection was argued successfully incident to claim 1, however, Applicant offers this additional argument for claim 8. The Office Action states that “French teaches the step of recording state further comprises the step of determining whether the server shutdown was elective or non-elective (an interrupt...test outcome is negative or positive, col. 6 lines 10 – 20).

Claim 8 is repeated here for the convenience of the Examiner.

8. (original) The method of claim 1, wherein said step of recording state further comprises the step of determining whether said server shutdown was elective or non-elective.

It is without question that the persistent connection software resides on the client device (French col. 13, lines 56 – 58). The text the Office Action refers to explains how the client is able to reestablish a connection and gives examples of some causes of

connection interruption. In French, the primary control for the persistent connection is with the software-enabled client device. Applicant believes that French is stating that connections fail for some of the reasons they list, and when the connection fails the client device jumps into action to reestablish a connection for the user. Applicant finds no recordation of this at the server. The client device in French, as is evident in the text and Figure 5, knows only that the connection is interrupted (not whether it was an elective or non-elective process), and the client simply replays the connections to reestablish a session. Applicant finds no mention of recording state further comprising the step of determining whether the server shutdown was elective or non-elective, thus French does not teach the invention.

For at least these reasons it is believed that claim 8 is allowable over French. Also, claim 8 depends directly from claim 1 and for at least the reasons stated regarding claim 1 it is believed that claim 8 is allowable over French.

Claim 16

At page 4, paragraph 10 the Examiner asks Applicant to see his “rejection for claim 12 above” but Applicant can find no such rejection by the Examiner in this Office Action (claim 12 was cancelled incident to the previous Office Action), thus Applicant is unable to present an argument directly in response to an Examiner’s rejection incident to this claim. Claim 16, however, depends directly from claim 1 and for at least

the reasons stated regarding claim 1 it is believed that claim 16 is allowable over French and French in view of Kampe.

Claim 21

At page 4, paragraph 11 the Office Action rejects claim 21.

Claim 21 depends directly from claim 1 and for at least the reasons cited incident to claim 1 is believed to be allowable over French. Action for allowance by the Examiner is respectfully requested.

Claims 22

At page 4, paragraph 12 the Office Action rejects claim 22 and asks Applicant to see rejections for claim 1 as claim 22 is an apparatus claim of claim 1. Similarly, Applicant requests that the Examiner see arguments presented incident to claim 1.

For at least the reasons cited incident to claim 1 it is believed that claim 22 is allowable over French in view of Kampe. Action for allowance by the Examiner is respectfully requested.

Claims 23 – 25

These claims are claims in apparatus form of method claims previously argued. They contain essentially the same elements of the method claims and for at least this reason and the reasons cited incident to their method claim counterparts are believed to be allowable over French and French in view of Kampe. The following list indicates their method claim counterparts. Applicant respectfully requests that the Examiner see these counterpart claims for arguments.

As to claims 23 – 25 please see arguments for claims 2 – 4

As to claim 29 please see arguments for claim 8

As to claim 37 please see arguments for claim 16

As to claim 42 please see arguments for claim 21

Claims 5 – 7, 9 – 11, 13 – 15, 17 – 20, 26 – 28, 30 – 32, 34 – 36, and 38 – 41

At page 5, paragraph 17 the Office Action rejects claims 5 - 7, 9 – 11, 13 – 15, 17 – 20, 26 – 28, 30 – 32, 34 – 36, and 38 – 41 under 35 U.S.C. 103(a), as being unpatentable over French, US patent no. 6,341,312 in view of Kampe, Publication Number 20020002448, and in further view of Delaney, US patent no. 5,996,086. Applicant hereby traverses the rejection.

Applicant believes that they have successfully argued these claims with respect to French such that any combination of cited art that includes French is moot. For

at least this reason and the reasons cited above in reference to French, this group of claims is allowable over French in view of Delaney.

Claims 48, 49, and 51

At page 10, paragraph 40 the Office Action rejects claims 48, 49, and 51 under 35 U.S.C. 103(a), as being unpatentable over Delaney, US patent no. 5,996,086 in view of French, US patent no. 6,341,312. Applicant hereby traverses the rejection.

At page 10, paragraph 41, the Office Action states that "...Delaney teaches...information identifying a flag value, the flag value indicating a previous operating mode identifying an elective reboot of the first device to be affected (identification information includes a flag...to be booted and fo-mode-stop...operator requested reboot, col. 7 lines 5 – col. 8 lines 57).

Applicant finds several distinctions between the invention and the cited art. While Delaney appears to teach several different identifiers associated with server operating modes, Applicant can find none that specifically identify "an elective reboot of a first device." The Office Action states that Delaney's Op-Mode variable "fo_mode_stop" is the equivalent of Applicant's flag that it identifies an elective reboot.

Applicant believes that, as to Delaney, “fo_mode_stop” indicates only that a device has stopped. It does not indicate whether this was due to an elective reboot, non-elective reboot, or a failure. The pertinent text of Delaney is found within the text cited by the Office Action at col. 8, lines 29 – 30 which states “FO_MODE_STOP When the local server is shutting down or has failed” and col. 8, lines 32 – 37 which state “FO_MODE_STOP When the local server is shutting down or has failed. When the remote server sends a reboot or halt message to the local server indicating it is ending normal operations.” There is no indication of an election to reboot (emphasis added).

The flag present in French appears to register only a positive or negative condition. Applicant cannot find that the cited art teaches or discloses a flag value that indicates that “reboot” or “takeover” of a first device was specifically either “elective” or “non-elective” as is claimed in claims 48 – 51, thus the cited art does not teach the invention.

Delaney appears to be strictly concerned with failover of one server to another or normal shut down, and does not include a persistent connection mechanism. French appears to be concerned with a simple persistent connection replay mechanism to reestablish a session. Claim 48 states in part “...said mode identifying an elective reboot of said first device while attempting to continue any CIFS sessions.” When claim 48 is read in light of the specification, Applicant’s invention claims and teaches the unique

feature of an elective reboot which requires steps that include flushing active CIFS requests and placing pending requests on hold. It is impermissible hindsight to consider that a combination of Delaney and French is obvious as to an elective shutdown of the server while maintaining a persistent connection when these steps are not taught in either invention. A combination of the cited art does not teach these steps, thus the cited art does not teach the invention.

For at least these reasons it is believed that claims 48 – 51 are allowable over Delaney in view of French. Action for allowance by the Examiner is respectfully requested.

Claim 50

At page 12, paragraph 44 the Office Action rejects claim 50 under 35 U.S.C. 103(a) as being unpatentable over Delaney, US patent no. 5,996,086 in view of Edmonds, US patent no. 6,397,345, and further in view of French, US patent no. 6,341,312. Applicant hereby traverses the rejection. Claim 50 is repeated for the convenience of the Examiner.

50. (previously presented) Non-volatile memory, said non-volatile memory having storage capable of holding information, said information including;

information identifying the state of a first device; and
information identifying a flag value, said flag value indicating
a previous operating mode said mode identifying an elective
takeover of said first device by a second device to be effected while
attempting to continue any active CIFS sessions.

The Office Action states that Delaney teaches “information identifying a flag value, the flag value indicating a previous operating mode (identification information includes a flag ...op_mode, col 7 lines 5 – col. 8 lines 57).” The Office Action then proceeds to combine the failover type system of Edmonds with Delaney and states that it is obvious to combine the two. It states that it would have been obvious to combine them because Edmonds’ elective takeover step would provide the takeover server a choice to takeover the failed server, and keep the system up and running efficiently.

As previously argued incident to claims 48, 49 and 51, the op_mode in Delaney does not appear to provide a flag that indicates “elective takeover.” Also, Edmonds does not appear to provide a flag that indicates an “elective takeover” of one server by another – it appears to provide “failover” from a first backplane to a second backplane. Edmonds appears to be fault tolerant bussing system concerned strictly with failover (not takeover) of one backplane to another and not an alternative sever making a combination of Delaney and Edmonds distinctly different from the teachings of the

Application and claim 50. The combination of cited art is not seen to teach or disclose a flag value indicating a previous operating mode identifying an elective takeover, thus the cited art combination does not teach the invention.

For at least these reasons it is believed that claim 50 is allowable over Delaney in view of Edmonds and further in view of French. Action for allowance by the Examiner is respectfully requested.

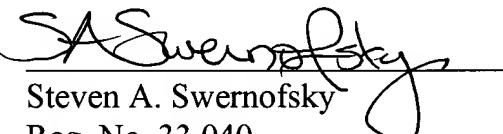
Request for Allowance

It is believed that this application is in condition for allowance. Applicant respectfully requests reconsideration and allowance of this application.

If, in the opinion of the Examiner, an interview would expedite prosecution of this application, the Examiner is invited to call the undersigned attorney at the telephone number shown below.

Respectfully submitted,

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